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**NATIONAL STANDARD OF THE
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GB/T 43245-2023

**Smart community infrastructures - Guidelines on data
exchange and sharing**

智慧城市基础设施 数据交换与共享指南

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Foreword

This document complies with the provisions of GB/T 1.1-2020 "Standardization Work Guidelines Part

1. Structure and Drafting Rules of Standardization Documents" Drafting. This document is equivalent to ISO 37156.2020 "Smart City Infrastructure Data Exchange and Sharing

Guidelines for Smart City Infrastructure" South". This document has made the following minimal editorial changes. In order to coordinate with existing standards, the name of the standard was changed to "Guidelines for Data Exchange and Sharing of Smart City Infrastructure";

---In the "Terms and Definitions" section, the notes on some terms have been modified. Please note that some content in this document may be subject to patents. The publisher of this document assumes no responsibility for identifying patents. This document is proposed and coordinated by the National Standardization Technical Committee for Sustainable Urban Development (SAC/TC567). This document was drafted by: Zhongcheng Smart (Beijing) Urban Planning and Design Institute Co., Ltd., China Institute of Standardization, China Urban Science and Technology Academic Research Association, Nanjing Land and Resources Information Center, China Architectural Design and Research Institute Co., Ltd., Zhongcheng Smart Technology Co., Ltd., Smart City (Hefei) Standardization Research Institute Co., Ltd., Foshan Nanhai District Zhongcheng Digital City Promotion Center, Guizhou Provincial Second Surveying and Mapping Institute, China Railway Intercity Planning Planning and Construction Co., Ltd., China Construction Third Engineering Bureau Group Co., Ltd., China MCC

22 Group Co., Ltd., China Power Construction Group East China Survey and Design Research Research Institute Co., Ltd., Beijing Huizhi Technology Co., Ltd., State Power Investment Quanlaidian Green Energy Charging Technology Co., Ltd., China Construction Installation Group Co., Ltd., Yunsai Zhilian Co., Ltd., China Railway Shanghai Engineering Bureau Group Co., Ltd., Jiangsu Shengneng Technology Co., Ltd., Shenzhen Xizhao Network Technology Co., Ltd., Renmin University of China, China Railway Electrochemical (Xi'an) Signal Equipment Co., Ltd., China Railway Seventh Bureau Group Fourth Engineering Co., Ltd., China Construction Eighth Bureau Fourth Construction Co., Ltd., China Construction Eighth Bureau Second Construction Co., Ltd., Hangzhou City Brain Co., Ltd., Hangzhou Runyuan Information Technology Co., Ltd. Company, China Construction Third Engineering Bureau Group (Shenzhen) Co., Ltd., Jilin Jida Communications Design Institute Co., Ltd., MCC Jingcheng Engineering Technology Co., Ltd., China State Nuclear Industry No.

23 Construction Co., Ltd., Beijing Tianrun Construction Co., Ltd., China Coal Science and Technology Chongqing Design and Research Institute (Group) Co., Ltd., Hibi Technology Group Co., Ltd., Geospace Information Technology Co., Ltd., China Southwest Architecture Design and Research Institute Co., Ltd., China Railway Seventh Bureau Group Co., Ltd. Tuan Electric Engineering Co., Ltd., Pujiang Sansi Optoelectronics Technology Co., Ltd., Anhui Provincial Transportation Planning and Design Research Institute Co., Ltd., Henan Chuitian Technology Co., Ltd., Wuxi Municipal Design and Research Institute Co., Ltd., China Railway Fourth Bureau Group Co., Ltd., Zhejiang Technology and Business University, China Construction Infrastructure Luo Zaiqian, Liu Miao, Gao Tingting, Qiu Shanlin, Sun Yuxia, Zhang Fuguo, Wang Yanhui, Wang Haoming, Zhou Dongbo, Ma

Jinman, Zhou Ye, Han Xiaoguang, Han Dezhi, Zhang Haojun, Han Gang, Zhang Nan, He Huagui, Zhan Yihong, Zhou Ainong, Wang Chuwei, Liu Lifeng, Han Wei, Liu Qihui, Bai Baojun, Chen Ribiao, Wu Dun, Zhao Na, Li Taisheng, Yan Su, Wang Bijun, Huang Chenguang.

Cities are the basic units of human economic activities and regional production, and are the crystallization of human technological progress, economic development and social civilization. City Infrastructure can provide convenience for urban residents' lives, and urban functions and residents' lives also rely on different urban infrastructure. city base Infrastructure is the material basis for the normal operation and healthy development of a city. Scientific and effective urban infrastructure management methods can improve the living environment environment and improve the quality of life of residents, enhance the city's comprehensive carrying capacity and improve urban operation efficiency. Efficient management can improve social economic to ensure economic benefits, ensure urban ecological security, and steadily promote new urbanization. Poor management of urban infrastructure will lead to environmental pollution, traffic congestion and Problems such as congestion, insufficient urban resources, and weak urban lifeline systems have adversely affected the sustainable development of cities. Data is the foundation of cities The basic basis for effective facility management. Urban infrastructure data is managed by different organizations or departments, and cross-departmental urban infrastructure In the information island phenomenon, this has a negative impact on efficient and convenient management. Therefore, strengthening data sharing is an important aspect of smart city construction. important content. Standardized data exchange and sharing will facilitate cross-department, cross-organization and cross-city business collaboration, and can effectively improve urban infrastructure. Infrastructure service capabilities will further consolidate the foundation of urban data management, optimize outcome output, and make cities safer, better, and more livable. This document mainly focuses on the data exchange and sharing of smart city infrastructure, and can share urban infrastructure for governments, enterprises, organizations and individuals. Facility data provides reference. This document helps to consolidate the foundation of informatization, eliminate information islands, promote data utilization, and make cities smarter. This document provides a set of urban infrastructure data governance methods and outlines urban infrastructure data that adheres to privacy and security principles. A unified framework for exchange and sharing. The purpose of this document is.

--- Give a reasonable reference basis so that we can obtain refined, efficient, convenient, ecologically friendly and safe infrastructure;

--- Provide appropriate measures for the exchange, supervision, sharing and maintenance of urban infrastructure services. smart city infrastructure Data Exchange and Sharing Guidelines

1 Scope

GB/T 43245-2023 gives guidance on data exchange and sharing between smart city infrastructures, equivalent to ISO 37156. A city's water, power, transport, waste and building systems were each built with their own data, their own vocabulary and their own owner, and the promise of a smart city is that they act on each other's information - which is an institutional problem before it is a technical one, since it requires agreeing who may see what and who is answerable when a shared figure is wrong. The standard sets the principles, the types and models of data exchange and sharing including the infrastructure data concept model, the data dictionary and catalogue and the data lineage, the use of exchange to optimise infrastructure services, the data security policies and principles, and the data roles and responsibilities. It took effect on 7 September 2023.

This document provides guidance on principles and framework for data exchange and sharing for entities developing and operating urban infrastructure. This document is suitable for infrastructure data exchange and sharing in various cities. Cities can take appropriate measures based on their own characteristics and conditions Implement infrastructure data exchange and sharing. Note

1. According to the definition of ISO 37100, the concept of intelligence in this document focuses on data exchange and sharing. Note

2. Appendix A provides application cases for urban infrastructure data exchange and sharing.

2 Normative reference documents

The contents of the following documents constitute essential provisions of this document through normative references in the text. Among them, the dated quotations For undated referenced documents, only the version corresponding to that date applies to this document; for undated referenced documents, the latest version (including all amendments) applies to this document. ISO 37155-

3 Terms and definitions

The following terms and definitions apply to this document.

3.1 Smart city infrastructure

3.1.1 communitycommunity City A group of people who are entrusted with specific responsibilities, activities, and relationships. Note

1. In this document, cities are within the same geographical area. Note

2. This document refers to community as "city" unless otherwise specified. [Source: GB/T